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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/406,570 | 09/24/1999 | AKIHIKO SHIMIZU | 2271/57219-A | 1757 |

7590 05/10/2004
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EXAMINER

PSITOS, ARISTOTELIS M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2653

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DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/406,570

Applicant(s)

SHIMIZU ET AL.

Examiner

Aristotelis M Psitos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/9/04 has been entered.

Claim Objections

With respect to the newly inserted claim language focusing upon the obliques of the edge portions of the phase pits, the examiner fails to find clear support for this written description in the remainder of the specification. The examiner has given an interpretation for this phrase as noted below. If such an interpretation is incorrect, and rejection predicated upon 35 USC 112 (parag. 1) would be introduced in any further correspondence. Applicant's cooperation with respect to the examiner's interpretation of this phrase is respectfully request. Nevertheless, written support for this phrase is not readily found.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1, 18, 7, 8 and 13 are rejected under 35 U.S.C. 102(b/e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakayama et al.

Under 102 considerations,

Nakayama et al discloses an optical information –recording medium – optical disc – various types, included a phase type. Furthermore, as depicted in figure 3, there are both lands and grooves (102 and 103) on a substrate. Furthermore, the ability¹ having information recorded in the lands is disclosed as land/groove recording. These lands and grooves alternate and one land area is between two grooves.

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With respect to figure 3, there is shown prepits 104. The depth of these prepits is substantially equal to the level of the groove see col. 19 lines 43-64.

Finally, Nakayama et al also discloses the appropriate tracking control ability – see col. 16 lines 10 plus with respect to figure 13.

If applicants can convince the examiner that the phase depth of the prepits is not the same as that of the track depth, then the examiner would rely upon either upon Takahashi et al which teaches such an ability in this environment, see claim 4 for instance, or JP 11-66630 which also discloses the depth of the prepits equal to that of the track.

With respect to the newly included limitation focusing upon the connection of the phase pit with another groove as recited in the claims, the examiner considers such as inherently present in the reference. Again, applicant's attention is drawn to figure 3 where the examiner interprets this adjoining groove has groove 103. Furthermore, the examiner considers this phraseology/limitation to be already present in claim 1 lines 6 to 8 where the second information track is interpreted as the another groove in the newly inserted phrase.

With respect to the newly inserted phrase focusing on the obliques of the edge portions the examiner considers such as also present in the reference, see the discussion with respect to figure 21a.

As noted therein the sidewalls of the pit are sloped in the examiner considers such as meeting this limitation.

The examiner interprets the method limitations of claims 18 and 7 as flowing from the product, and hence met.

It would have been obvious to modify the base system of Nakayama et al with the above depth teaching from either Takahashi et al or JP 11-66630 because the variation in the depth is considered an optimization ability of existing elements and obvious to those of ordinary skill in the art.

Response to Arguments

Applicant's arguments filed 2/9/04 have been fully considered but they are not persuasive.

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Applicant focuses on the newly inserted phraseology in all of the independent claims. The examiner notes that independent claims 1, 8, and 13 are substantially duplicates of one another. As stated above, the examiner concludes these limitations are present.

2. Claims 2, 3, 9,10,11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the acknowledged prior art as applied to claims 1, 8 and 13 above, and further in view of Tsuchiya et al.

The limitations recited (it is noted that claims 9,10, 11 and 15 duplicate claims 2 and 3 respectively, and hence the examiner will only discuss the limitations of claims 2 and 3 specifically, but the position taken is the same for claims 9,10,11 and 15) are found in the secondary reference to Tsuchiya et al - note his values for TP (track pitch), spot size, pit width.

Although the groove width is not specifically recited, the examiner takes the position that the groove width in this environment ranges from .4 to .6 micrometers.

The examiner interprets the limitations of these claims to be modifications of the acknowledged prior art in order to maximize/optimize system parameters. Obviously the ability to provide for cross talk prevention is one of those parameters as is increasing recording density.

3. Claims 2-5,9-12,14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 1,8 and 13 above, and further in view of Mieda et al or Sugaya et al

Again, the limitations of claims 9-12 and 14-17 are found in claims 2-5, and hence the examiner will discuss the limitations of claims 2-5.

Either Mieda et al or Sugaya et al depicts optical records having a plurality of pit formats available for maximizing system parameters such as cross talk reduction/ increasing recording density.

In Mieda et al, figs. 3-5 provide for a variety of parameters to be varied.

The examiner interprets the "short pit" parameters for meeting the limitations of claims 2 & 3, while the "long pit" parameters for the limitations of claims 4 and 5.

It would have been obvious to one of ordinary skill in the art to modify the acknowledged prior art with the above teachings from Mieda et al -motivation being to maximize system parameters.

Applicants' attention is also drawn to Sugaya et al, which also teaches the parameter variations re TP, LP, and BD and can be relied upon to meet the limitations of claims 2,3, 9,10,14 and 15.

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4. Claims 1,8,13,18 rejected under 35 U.S.C. 103(a) as being unpatentable over the acknowledged prior art to JP 11-066630 (the examiner concludes that this is the prior art of fig. 17) further considered with Yamaoka et al.

The acknowledged prior art depicts optical disk with the appropriate land/groove structure having prebits. However, the prebits contact each groove.

The secondary reference to Yamaoka et al teaches in this environment the ability of such a partial contact.

It would have been obvious to modify the base system of JP 11-066630 with the above additional teaching from Yamaoka for the reasons stated therein, to reduce cross talk and improve track density.

5. Claims 2-5,9-12,14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 1,8 and 13 above in paragraph 4, and further in view of Mieda et al or Sugaya et al

Again, the limitations of claims 9-12 and 14-17 are found in claims 2-5, and hence the examiner will discuss the limitations of claims 2-5.

Either Mieda et al or Sugaya et al depicts optical records having a plurality of pit formats available for maximizing system parameters such as cross talk reduction/ increasing recording density.

In Mieda et al, figs. 3-5 provide for a variety of parameters to be varied.

The examiner interprets the "short pit" parameters for meeting the limitations of claims 2 & 3, while the "long pit" parameters for the limitations of claims 4 and 5.

It would have been obvious to one of ordinary skill in the art to modify the acknowledged prior art with the above teachings from Mieda et al -motivation being to maximize system parameters.

Applicants' attention is also drawn to Sugaya et al, which also teaches the parameter variations re TP, LP, and BD and can be relied upon to meet the limitations of claims 2,3, 9,10,14 and 15.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 9-326138. As discussed in US patent pub. 2002/0075793 this document (JP 9-326138) teaches the ability of having the prebit(s) only adjoining one of the grooves (see paragraph 0006 in the US publication). The examiner has not been able to obtain an English translation of this document.

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Nevertheless he wishes to bring this reference to applicant's attention. The examiner will endeavor to obtain an English translation thereof and supply such applicants' representative in any further communication from the examiner. If the above statement with respect to this document is correct, then it also can be relied upon in the above rejections as stated in paragraph 4 & 5 in addition to the reference to Yamaoka et al.

Hard copies of the application files are now separated from this examining corps; hence the examiner can answer no questions that require a review of the file without sufficient lead-time.

Any inquiries concerning missing papers/references, etc. must be directed to Group 2600 Customer Services at (703) 306-0377.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M Psitos whose telephone number is (703) 308-1598. The examiner can normally be reached on M-Thursday 8 - 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aristotelis M Psitos
Primary Examiner
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